

Name: _____ TP: _____

Failure to show work on all problems or use complete sentences will result in a LaSalle.

1) Simplify:

$$3\sqrt{5} = \sqrt{54} - 3\sqrt{24}$$

$\swarrow \quad \searrow \quad \swarrow \quad \searrow$
 $\sqrt{9} \sqrt{6} \quad \sqrt{4} \sqrt{6}$

2) Simplify:

$$-\sqrt{12} - \sqrt{24} - 3\sqrt{27}$$

$\swarrow \quad \searrow \quad \swarrow \quad \searrow \quad \swarrow \quad \searrow$
 $\sqrt{4} \sqrt{3} \quad \sqrt{4} \sqrt{6} \quad \sqrt{9} \sqrt{3}$

3) Solve:

$$(\sqrt{-2-p})^2 = (\sqrt{2p+13})^2$$

$$-2-p = 2p+13$$

4) Solve:

$$(\sqrt{55-6a})^2 = (a-8)^2$$

FOIL OR BOX

$$55-6a = (a-8)(a-8)$$

5) Simplify:

$$\sqrt{-24k^5} = \sqrt{-1} \cdot \sqrt{24} \cdot \sqrt{k^5}$$

$\downarrow \quad \swarrow \quad \searrow \quad \swarrow \quad \searrow$
 $\sqrt{-1} \quad \sqrt{4} \sqrt{6} \quad \sqrt{k^4} \sqrt{k}$

6) Simplify:

$$\sqrt{\frac{-150}{4}} = \frac{\sqrt{-1} \cdot \sqrt{150}}{\sqrt{4}} = \frac{\sqrt{150}}{2}$$

$\swarrow \quad \searrow$
 $\sqrt{25} \sqrt{6}$

7) Simplify: $4i(9i) =$

$$i^2 = -1$$

8) Simplify: $4i(-6+i) =$

9) Find values of x and y to make each equation true.

$$3x + 2iy = 6 + 10i$$

10) Which real number is equivalent to i^{12} ? $i^2 = -1$

- A. -1 $i^{12} = i^2 \cdot i^2 \cdot i^2 \cdot i^2 \cdot i^2 \cdot i^2$
- B. $\sqrt{-1}$
- C. 1
- D. 9
- E. There is no equivalent real number

PUSH IT TO THE LIMIT.

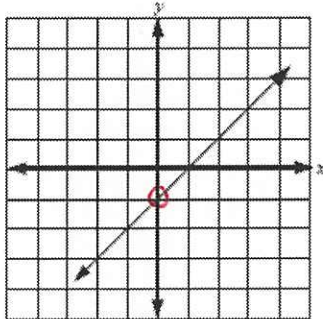
11) Simplify: $2(6-i) + i(3-i) =$

- A. $13 - 6i$
- B. $11 + i$
- C. $11 - 6i$
- D. $13 + i$

12) Simplify: $(-5i + 3)(-2i - 8)$

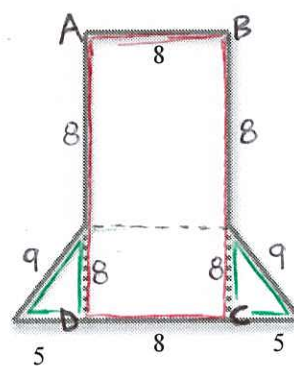
1. FOIL or BOX
2. Simplify

13) What would be the equation of the line $y=x-1$ if it were translated down 7 units?



$y = mx + b$
 ↑
 y-intercept... goes DOWN 7.

14) If rectangle ABCD is inside the hexagon below, what is the area of the entire hexagon?



$A = l \cdot w$
 $A = \frac{1}{2}bh$

15) If m is the midpoint of segment AC and m has the coordinates (6,2) and C has the coordinates (4,6), what are the coordinates of the endpoint A?

midpoint = $\left(\frac{x_2 + x_1}{2}, \frac{y_2 + y_1}{2} \right)$
 $\left(\frac{x_2 + 4}{2} = 6, \frac{y_2 + 6}{2} = 2 \right)$

16) Simplify: $8\sqrt{147}$

$8\sqrt{3 \cdot 49}$

PUSH IT TO THE LIMIT.